

## REMARKS

In the Office Action of February 1, 2007, claims 1, 6-9, 11-12, 18-20, 22-23, 28, 32, 37-38, 42, 57, 61, 65 and 70-71 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ling (International Application No. WO/98/39871), in view of any/all of Ungerboeck ("Channel coding with multilevel/phase signals"), Lee ("Convolutional Coding: Fundamentals and Applications"), and Schlegl ("Trellis Coding") and further in view of Uyematsu et al. ("Trellis coded modulation for multilevel photon communication systems"), Winters et al. ("Reducing the effects of transmission impairments in digital fiber optic systems") and Aman et al. ("Combined trellis coding and DFE through Tomlinson precoding"). Claim 1 is directed to a method for high-speed transmission of information data on an optical channel. The method includes "equalizing the digital multilevel symbols to compensate for characteristics of the optical channel, said equalizing comprising precoding the digital multilevel symbols using a Tomlinson-Harashima precoder comprising a modulo block operable to perform a wrap-around operation on the digital multilevel symbols; converting the digital multilevel symbols into analog multilevel signals; and transmitting the analog multilevel signals over the optical channel." Thus claim 1 includes performing Tomlinson-Harashima precoding in an optical transmission system. Applicant submits that this is not taught or suggested by the cited art. The only cited art that teaches Tomlinson-Harashima precoding is Ling, which is not directed to an optical transmission system. The only transmission medium referred to in Ling is copper (see page 4, last paragraph). Applicant submits that it would not have been obvious to one of ordinary skill in the art at the time that the invention was made to implement Tomlinson-Harashima precoding in an optical transmission system because optical transmission systems have different channel characteristics and present different challenges than copper cabling transmission systems. In the Office Action, the Examiner argues that it would be obvious to perform trellis coded modulation (TCM) in an optical transmission system, but fails to argue that it would be obvious to use Tomlinson-Harashima precoding in an optical transmission system. Applicant submits that it would not have been obvious to one of ordinary skill in the art at the time that the invention was made to implement Tomlinson-Harashima precoding in an optical transmission system for the reasons set

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forth above. Therefore, Applicant submits that claim 1, and claims 5-9 depending therefrom, are allowable over the cited art.

Independent claims 11, 23, 28, 32, 38, 42, 57, 61, 65 and 71 contain limitations similar to limitations contained in claim 1 and were rejected on grounds similar to those used to reject claim 1. Applicant submits that claims 11, 23, 28, 32, 38, 42, 57, 61, 65 and 71, and all claims depending therefrom, are allowable over the cited art for the reasons set forth above with respect to claim 1.

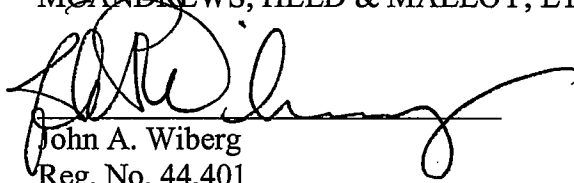
In view of the foregoing amendments, Applicant respectfully requests allowance of claims 1, 5-9, 11, 12, 16, 18-20, 22, 23, 28, 31, 32, 36-38, 41, 42, 45, 57, 60, 61, 64, 65, 69-71 and 74.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

Respectfully submitted,

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MCANDREWS, HELD & MALLOY, LTD.

  
John A. Wiberg  
Reg. No. 44,401  
Tel.: 312 775 8000

McAndrews, Held & Malloy, Ltd.  
500 West Madison Street  
34<sup>th</sup> Floor  
Chicago, IL 60661  
Telephone: (312) 775-8000  
Facsimile: (312) 775-8100